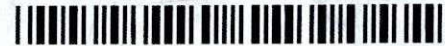




Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3391-025
Job Sheet 175482



Part No: D3391-025

Job Qty: 1 ea

Part Name: Aft Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/5/18

Job Tracking No:

Due Date: 5/7/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV J SHEETS 9,10,11 IPP Rev B 06-02-07 ECN773 dwg rev. D EC IPP Rev:C 06-03-28 Update
Manuf. Instructions JLM IPP rev D 07.03.20 revF dwg EC IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified
by: DD IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC IPP Rev:G 08-09-10 revH as per dwg DD verified
by:EC IPP Rev:H 11.11.14 AS PER REV.I DD verified by:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	5/4/18	5/4/18	0.00	0.00	Start Up Crosstubes		DAS
100	Mori Seiki	1 pcs	5/4/18	5/4/18	2.49	4.17	Mori Seiki TL-40		56
110	QC	1 pcs	5/4/18	5/4/18	0.00	0.00	QC2-1		9-89
112	QC	1 pcs	5/4/18	5/4/18	0.00	0.00	QC5		23
120	CNC Vertical Machining	1 pcs	5/5/18	5/5/18	0.00	2.63	HAAS1-3		111
130	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC2 Machining-2		111
140	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC8 Machining-2		18/05/24
150	Skid tubes	1 pcs	5/5/18	5/5/18	0.00	1.03	Skid tubes-4		111
160	CNC Bend Skid tubes	1 pcs	5/5/18	5/5/18	0.00	1.33	CNC Bend Skid tube		111
170	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC5		BE
180	Skid tubes	1 pcs	5/5/18	5/5/18	0.00	1.03	Skid tubes-4		111
190	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC5		111
200	HandFinish	1 pcs	5/5/18	5/5/18	0.00	0.58	HandFinish1		18-06-05
210	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC7-2		BE
220	Skid tubes	1 pcs	5/5/18	5/5/18	0.00	1.41	Skid tubes-4		111
230	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC5		111
235	HandFinish	1 pcs	5/5/18	5/5/18	0.00	0.58	HandFinish2		18-06-12
240	SprayPaint	1 pcs	5/5/18	5/5/18	0.00	0.25	Spray Paint		18-06-12
242	Outsource	1 pcs	5/5/18	5/5/18			ATE003-VO		18-06-12
250	QC	1 pcs	5/5/18	5/5/18	0.00	0.00	QC14		18-07-05
260	HandFinish	1 pcs	5/7/18	5/7/18	0.00	0.58	HandFinish4		18-07-05
270	QC	1 pcs	5/7/18	5/7/18	0.00	0.00	QC5		18-07-05
280	Packaging	1 pcs	5/7/18	5/7/18	0.00	0.00	Packaging3-1		21
290	QC21-SA	1 Ea	5/7/18	5/7/18	0.00	0.00	QC21		21

Part Op 100 - Turn as per Folio FA599 Rev: ____ & Dwg D3391 Rev: ____ ***ensure steady rest is turning true*** **R

Descriptions: STEADY REST AND MACHINIG MARKS****

120 - 1-Machine as per Folio FA 599 Rev: ____ & Dwg D3391 Rev: ____

140 - ***INSPECT INSIDE BORE***

150 - 1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

160 - Form as per Dwg D3391 Using Bend Prog 3391025

180 - 1-Open Aft cap pilot hole to .208" as per Dwg D3391 2-Drill float bag holes using DT8809 as per marked "A" Only. 3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 We

WORK ORDER NON-CONFORMANCE / UPDATE



Date: _____

Work Order update only

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework	☐
Scrap	☐
Use-as-is	☐
Suspected Unapproved	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐
Thermoforming	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐
Large Fab	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
	☐	Composite	☐	Supplier	☐		☐

Date: _____

Step #: _____

QTY Effective: _____

Description Work Order Deviation

Disposition

Completed By

Lead hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 04/20/18



Container No: S063150



Part: D3391 - 025

Job No: 175482

Serial No/Batch: S063150

Revision:
Inspector:

AULT CATEGORY

Power Loss/Surge	☐	Positioned Wrong	☐
Folio/Program	☐	Outside Dimensions	☐
Grain	☐	Over/Under tolerance	☐
Weld	☐	Part Incorrect	☐
Wrong Stock Pulled	☐	Part Lost/Missing	☐
Out of Sequence	☐	Part Moved	☐
Off-set	☐	Drawing	☐
Mislabeled	☐	Finish	☐
Fit/Function	☐	Misread	☐
Misaligned/off center	☐	Turning Sequence	☐

Not Open To Finished Size***** 4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes. 5-Open wearplate holes to 0.297" and c'bore as per dwg D3391 6-Open up all float bag holes to 0.328" and c'sink as per Dwg D3391. 8- Scribe batch # on fwd end

220 - 1- Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: M137073 exp. date : 18-08 cure time 12hrs as per QSI0015 2- Grind crossbolts flush 3- Back drill using #9 drill 4- Touchup Magnabond 5- Deburr

235 - AND REALODINE AS PER PAR09-043

240 - PRIME AS PER DWG AND QSI005 4.2.1.3.3 138747 PAINT 130863

260 - 1-Install inserts as per Dwg D3391 2-Install Aft Cap as per Dwg D3391 A/ R Sikaflex-241/-291 18/12 Sikaflex expiry date: M138781 3- INSTALL WEARPLATES AS PER DWG

290 - 5- Detail DD, open (5) forward wearplate holes 0.375", then use DT10247 and drill holes for nutplates and c'sink. 6-Open wearplate holes to 0.297" and c'bore as per dwg D3391. ***SIX FARTHEST AFT HOLES ONLY*** 7-Open up all float bag holes to 0.328" and c'sink as per Dwg D3391. 8-Deburr 9- Scribe batch # on fwd end

004229

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6014-090	Aluminum Extrusion	1 Ea (1 ea)	90-Start up Operation	
D3670-4-200	Bushing	4 Ea (4 ea)	220-Skidtubes	5021464
ALS4-1032-130	Rivnut	8 Ea (8 ea)	260-HandFinish	5007279
ALS4-1032-225	Rivnut	4 Ea (4 ea)	260-HandFinish	5058182
AN3C4A	Bolt	6 Ea (6 ea)	260-HandFinish	5068642
AN3C5A	Bolt	4 Ea (4 ea)	260-HandFinish	5031153
D2646	Aft Cap	1 Ea (1 ea)	260-HandFinish	FL65010
D3672-1	Washer, Phenolic	2 Ea (2 ea)	260-HandFinish	1-150071
D4095-047	Wearpad Aft	1 Ea (1 ea)	260-HandFinish	5025041
D4095-049	Wearpad Aft	1 Ea (1 ea)	260-HandFinish	5018298
MS20601-AD4W3	Rivet	12 Ea (12 ea)	260-HandFinish	5066193
MS20601-AD4W7	Rivet	8 Ea (8 ea)	260-HandFinish	M137148
MS21075L5	Nut Plate	10 Ea (10 ea)	260-HandFinish	5004858
NAS1149C0332R	Washer	10 Ea (10 ea)	260-HandFinish	5056443

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D6014-090	1	27	0
220-Skidtubes	D3670-4-200	4	48	0
260-HandFinish	ALS4-1032-130	8	14,829	0
	ALS4-1032-225	4	4,627	0
	AN3C4A	6	2,155	0
	AN3C5A	4	2,206	0
	D2646	1	100	0
	D3672-1	2	1,071	0
	D4095-047	1	11	0
	D4095-049	1	38	0
	MS20601-AD4W3	12	249	0
	MS20601-AD4W7	8	185	0
	MS21075L5	10	174	0
	NAS1149C0332R	10	7,070	0

Part Specifications

Specifications could not be found.

DART AEROSPACE LTD		Work Order: 175482
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: J	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.0	✓		TAPE	
3.500	+/-0.010	3.502	✓		VERNOB	
Ø3.200	+/-0.010	3.2015	✓		↓	
Ø3.750	+/-0.010	3.75	✓		↓	
30° x 0.060 chamfer	+/-0.010	0.070	✓		↓	
88.93	+/-0.030	88.93	✓		TAPE	

Measured by: 9-89	Date: 2018-04-19
Audited by:	Date:

HAAS Section						
1.526	+0.000/-0.030	1.513	✓			
7.500	+/-0.010	7.509	✓			
27.750	+/-0.010	27.758	✓			
31.750	+/-0.010	31.755	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.304	✓			
0.200	+/-0.010	.199	✓			
3.520	+/-0.010	3.526	✓			
0.687	+0.010/-0.000	.689	✓			
R0.062	+/-0.010	R.062	✓			
Ø0.484	+0.005/-0.001	.4840	✓			

Measured by: [Signature]	Date: 2018/05/18
Audited by: [Signature]	Date: 18/05/24

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	
I	12.05.15	Dwg Rev updated	KJ	
J	12.05.23	Dimension updated	KJ	
K	12.10.15	88.93 dimension removed	KJ	
L	12.11.28	88.93 dimension added	KJ	
M	16.06.23	Dimensions updated per Rev J	KJ	

D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
2	2	D3591-1	BUSHING
4		D3672-3	WASHER
1	1	D4095-041	WEARSHOE
1	1	D4095-043	WEARSHOE
1	1	D4095-045	WEARSHOE
1	1	D4095-047	WEARPAD
1	1	D4095-049	WEARPAD
1	1	D4095-051	WEARSHOE
24	24	AN3C4A	BOLT
4	4	AN3C6A	BOLT
10	10	AN5C7A	BOLT
28	28	NAS1149C0332R	WASHER
10	10	NAS1149C0532R	WASHER
4		MS27039C4-12	SCREW
4		NAS1149C0432R	WASHER

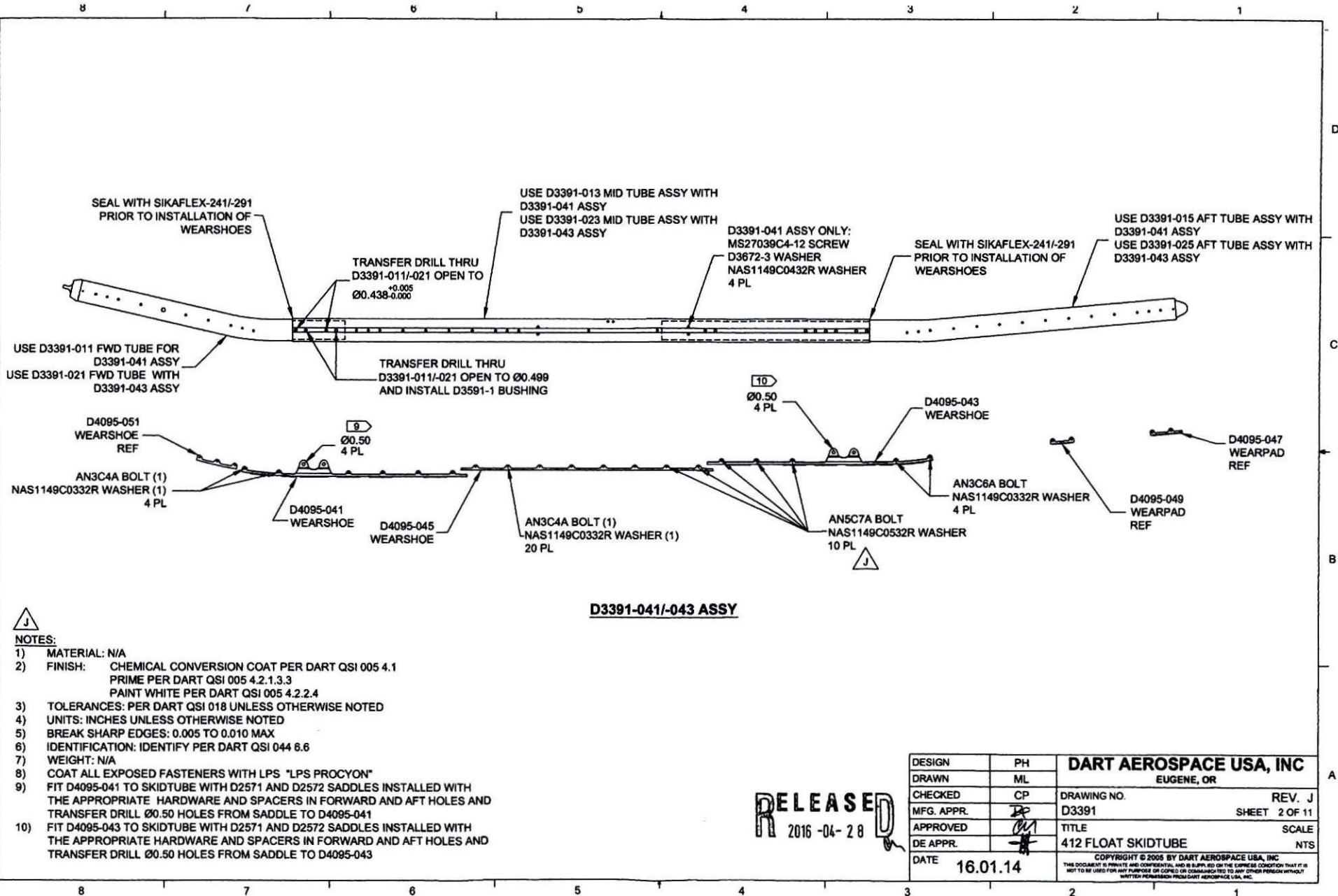


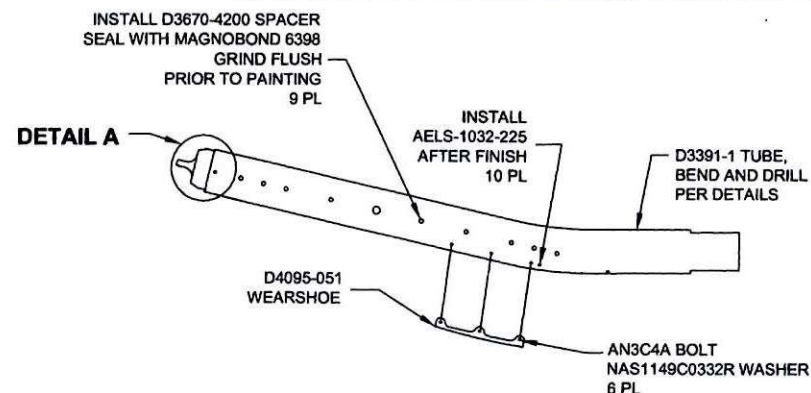
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

175482 MJS
1803-05

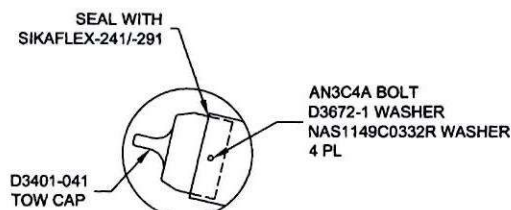
J	INCORPORATED DSI 9733, REFORMAT DRAWING CHANGED CBORE DEPTH (ZN D2-8, D2-9), REVISED TABLES, REPLACED POWDER COAT WITH PAINT	ML	16.01.14
I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A8-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9384 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	DP	D3391	SHEET 1 OF 11
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

RELEASED
2016-04-28
ECN 16-96

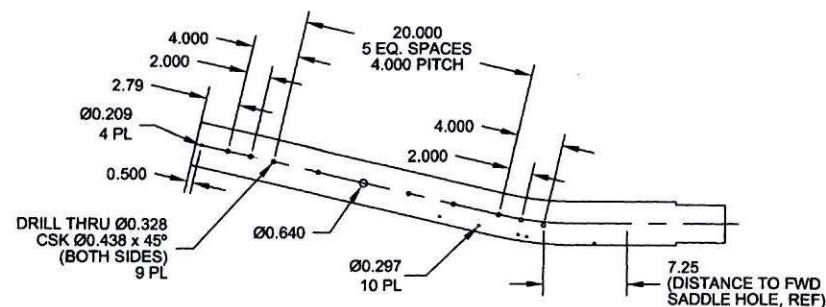




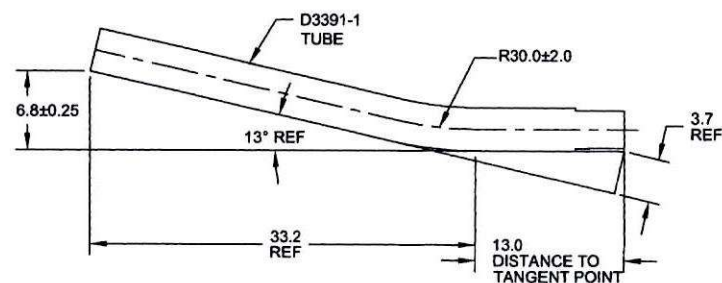
D3391-011 FWD TUBE ASSEMBLY
ASSEMBLY DETAIL



DETAIL A
SCALE 2X



D3391-011 DRILLING DETAIL



D3391-011 BENDING DETAIL
(MAKE FROM D3391-1)

D3391-011 FWD TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-011	FWD TUBE ASSEMBLY
1	D3391-1	TUBE
1	D3401-041	TOW CAP
9	D3670-4200	SPACER
4	D3672-1	WASHER
1	D4095-051	WEARSHOE
10	AELS-1032-225	INSERT
10	AN3C4A	BOLT
10	NAS1149C0332R	WASHER

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	<i>Be</i>	D3391	SHEET 3 OF 11
APPROVED	<i>CP</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

RELEASED
2016-04-28

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL

DETAIL B

D4095-051
WEARSHOE

INSTALL
AELS-1032-225
AFTER FINISH
10 PL

AN3C4A BOLT
NAS1149C0332R WASHER
6 PL

D3391-021 FWD TUBE ASSEMBLY ASSEMBLY DETAIL

SEAL WITH
SIKAFLEX-241/-291

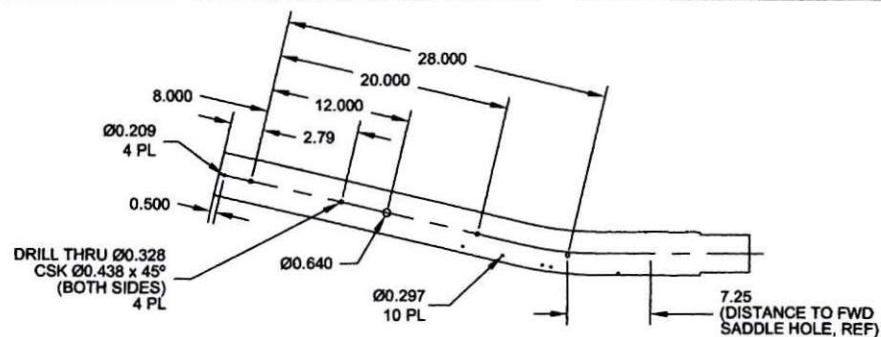
D3401-041
TOW CAP

AN3C4A BOLT
D3672-1 WASHER
NAS1149C0332R WASHER
4 PL

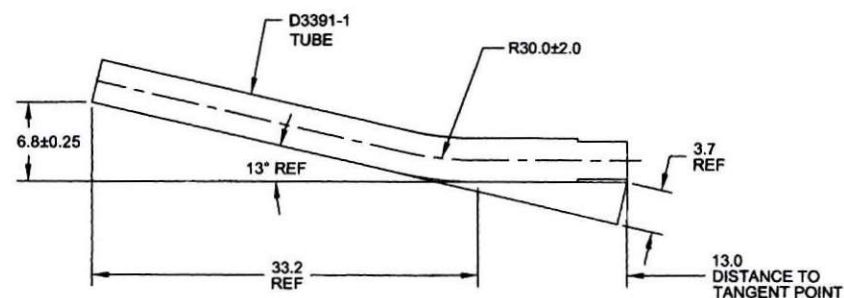
DETAIL B
SCALE 2X

D3391-021 FWD TUBE ASSEMBLY PARTS LIST

QTY -021	PART NUMBER	DESCRIPTION
X	D3391-021	FWD TUBE ASSEMBLY
1	D3391-1	TUBE
1	D3401-041	TOW CAP
4	D3670-4200	SPACER
4	D3672-1	WASHER
1	D4095-051	WEARSHOE
10	AELS-1032-225	INSERT
10	AN3C4A	BOLT
10	NAS1149C0332R	WASHER



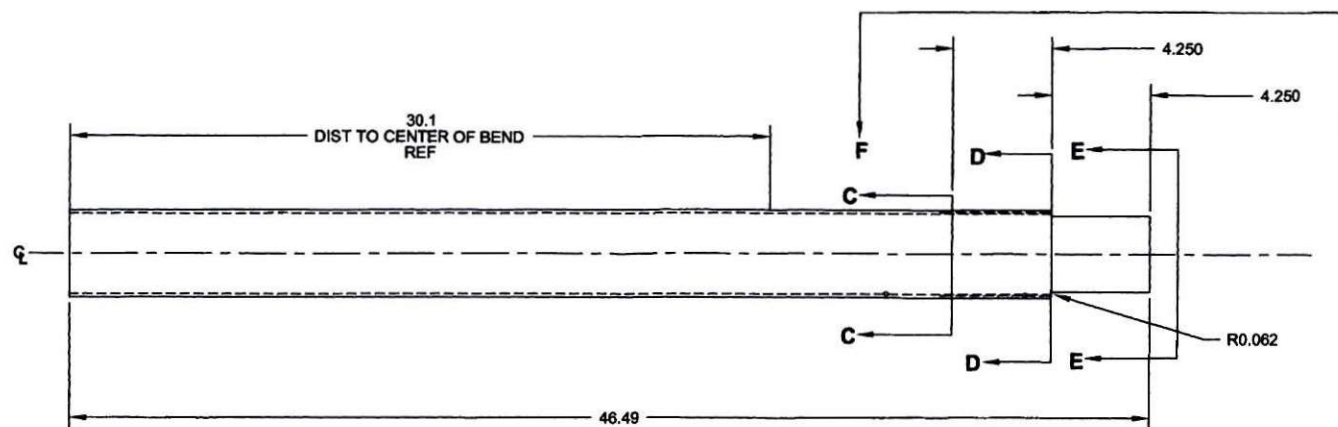
D3391-021 DRILLING DETAIL



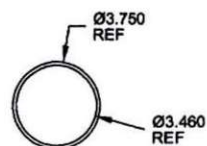
D3391-021 BENDING DETAIL (MAKE FROM D3391-1)

RELEASED
2016-04-28

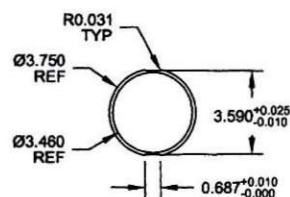
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	DP	D3391	SHEET 4 OF 11
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



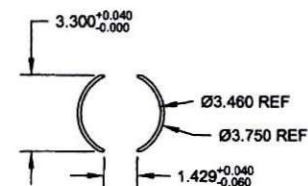
D3391-1 TUBE
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



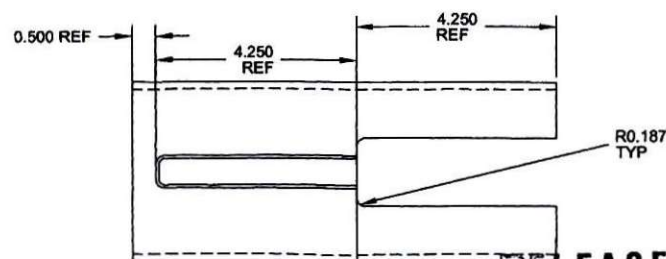
SECTION C-C



SECTION D-D



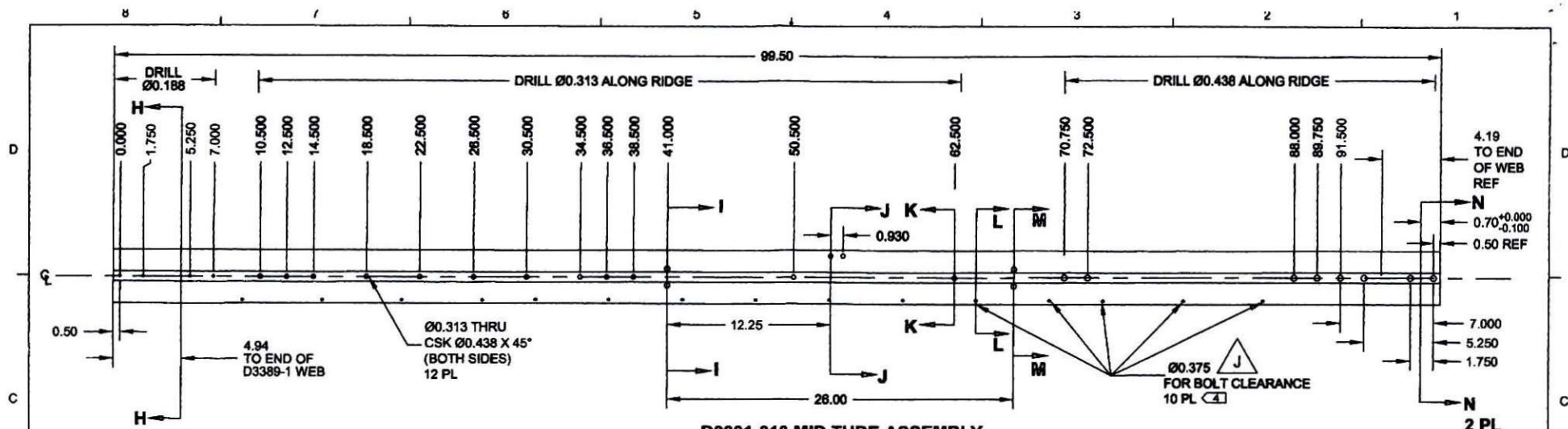
SECTION E-E



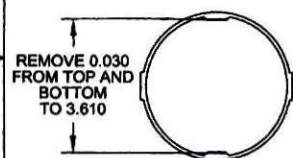
VIEW F-F
SCALE 2X

RELEASED
2016-04-28

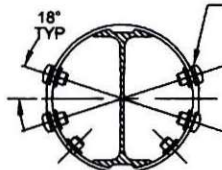
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO. D3391	REV. J
MFG. APPR.			SHEET 5 OF 11
APPROVED		TITLE 412 FLOAT SKIDTUBE	SCALE NTS
DE APPR.		COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
DATE	16.01.14	THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



D3391-013 MID TUBE ASSEMBLY

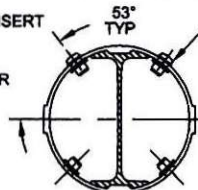


SECTION H-H
SCALE 2X



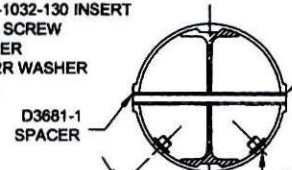
SECTION I-I
SCALE 2X

DRILL Ø0.391
INSTALL ALS4-428-165 INSERT
MS27039C4-08 SCREW
D3672-3 WASHER
NAS1149C0432R WASHER
AFTER FINISH
4 PL



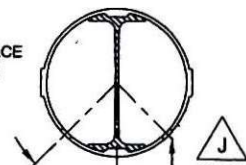
SECTION J-J
SCALE 2X

DRILL Ø0.297
INSTALL AELS-1032-130 INSERT
MS27039C1-09 SCREW
D3672-1 WASHER
NAS1149C0332R WASHER
AFTER FINISH
4 PL



SECTION K-K
SCALE 2X

DRILL Ø0.297
INSTALL AELS-1032-130 INSERT
AFTER FINISH
TYP



SECTION L-L
SCALE 2X

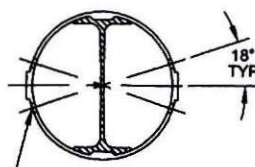
D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW
4	NAS1149C0332R	WASHER
4	NAS1149C0432R	WASHER

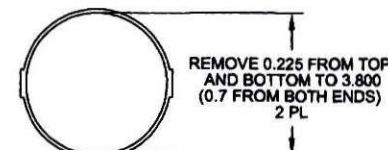


D3391-013 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004
- 4) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 AND Ø0.375 HOLES FOR WEARSHOE INSERTS AND NUTPLATES. CBOR AS NOTED AND INSTALL INSERT/NUTPLATES EXCEPT WHERE INDICATED.



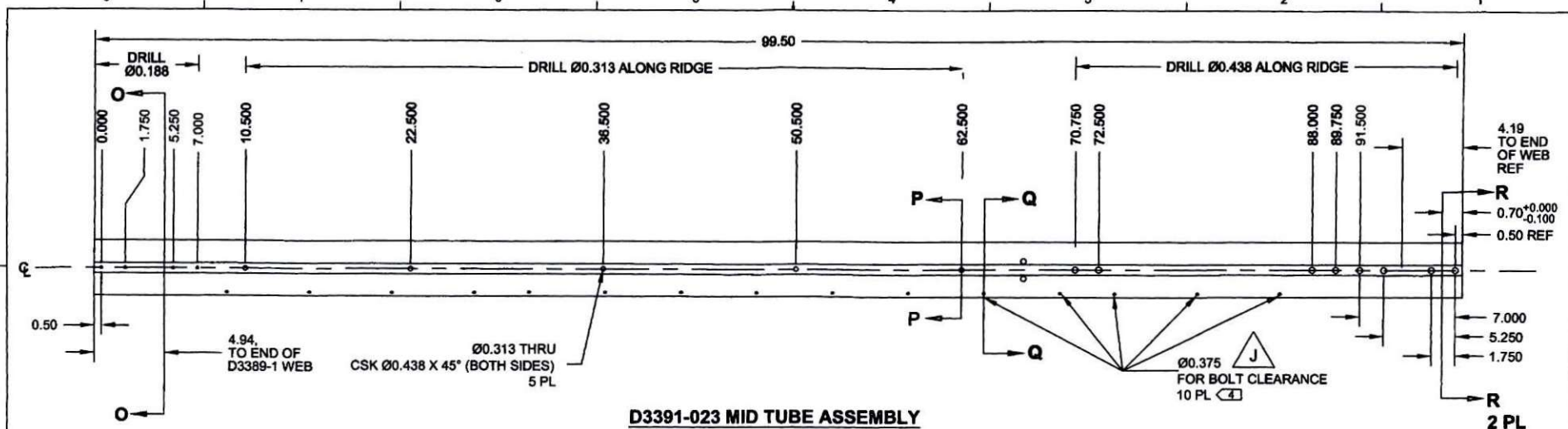
SECTION M-M
SCALE 2X



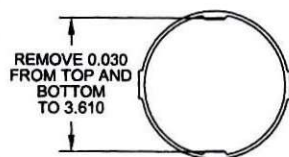
SECTION N-N
SCALE 2X

RELEASED
2016-04-28

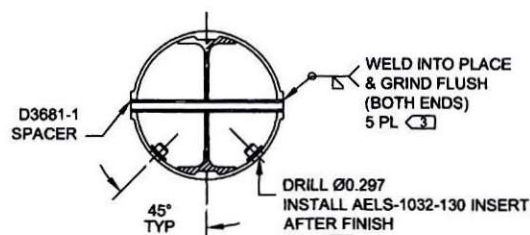
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.		D3391	SHEET 6 OF 11
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	



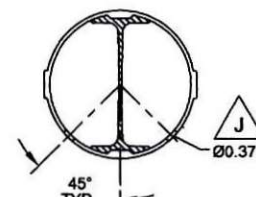
D3391-023 MID TUBE ASSEMBLY



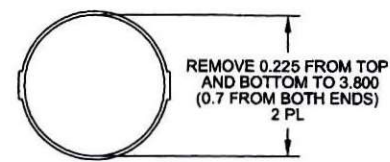
SECTION O-O
SCALE 2X



SECTION P-P
SCALE 2X



SECTION Q-Q
SCALE 2X



SECTION R-R
SCALE 2X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

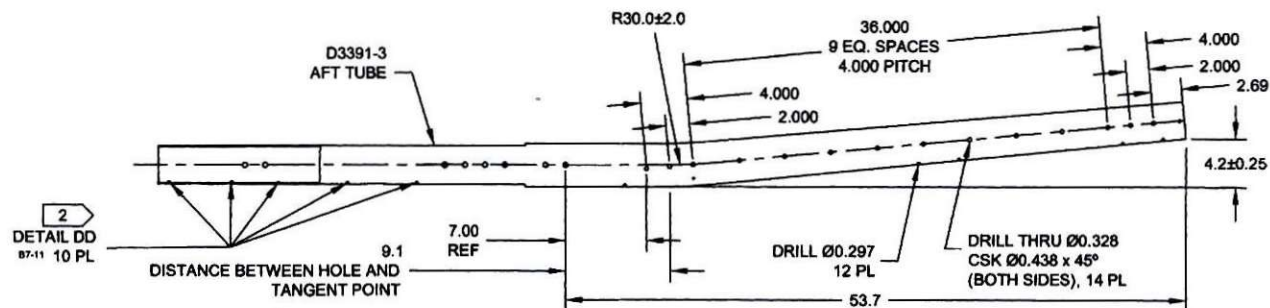
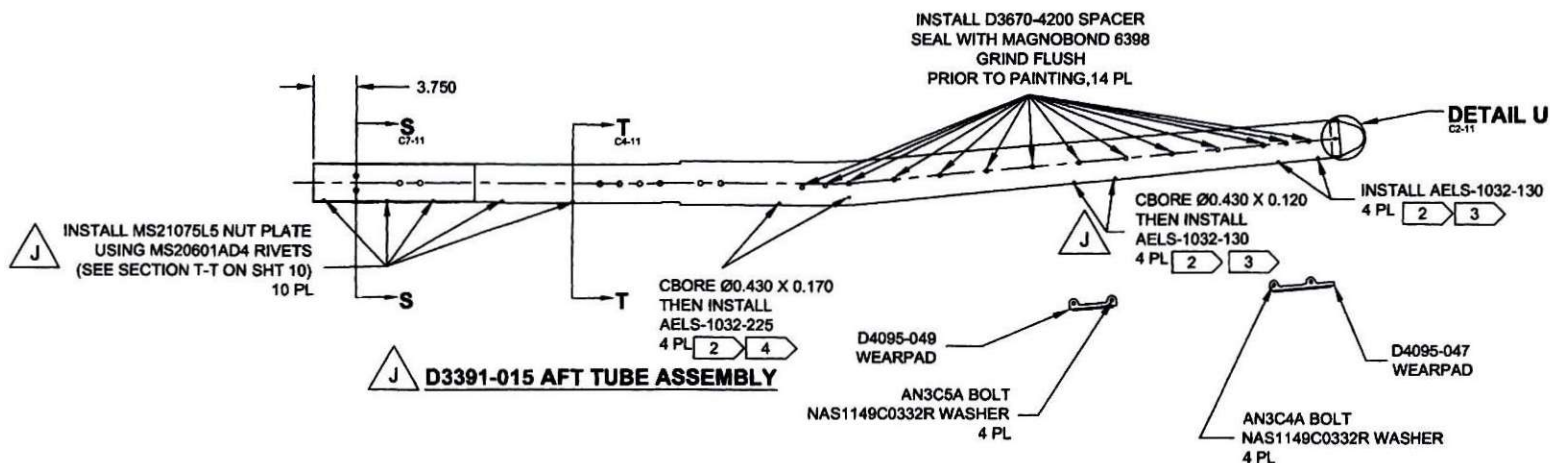


D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004
- 4) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 0.297 AND 0.375 HOLES FOR WEARSHOE INSERTS AND NUTPLATES. CBOR AS NOTED AND INSTALL INSERT/NUTPLATES EXCEPT WHERE INDICATED.

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.		D3391	SHEET 7 OF 11
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

RELEASED
2016-04-28



D3391-015 AFT TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	D3391-015	AFT TUBE ASSEMBLY
1	D2646	AFT CAP
1	D3391-3	AFT TUBE
14	D3670-4200	SPACER
2	D3672-1	WASHER
1	D4095-049	WEARPAD
1	D4095-047	WEARPAD
8	AELS-1032-130	INSERT
4	AELS-1032-225	INSERT
4	ALS4-428-165	INSERT
6	AN3C4A	BOLT
4	AN3C5A	BOLT
20	MS20601AD4	RIVET BLIND
10	MS21075L5	NUT PLATE, FLOATING
10	NAS1149C0332R	WASHER

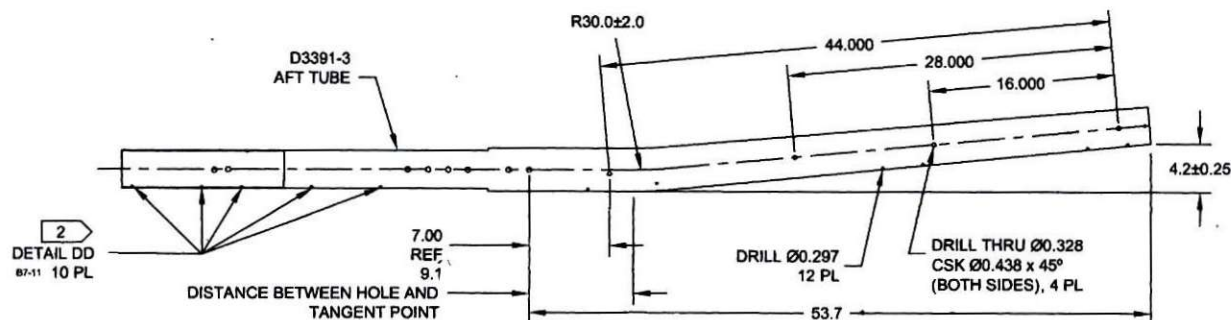
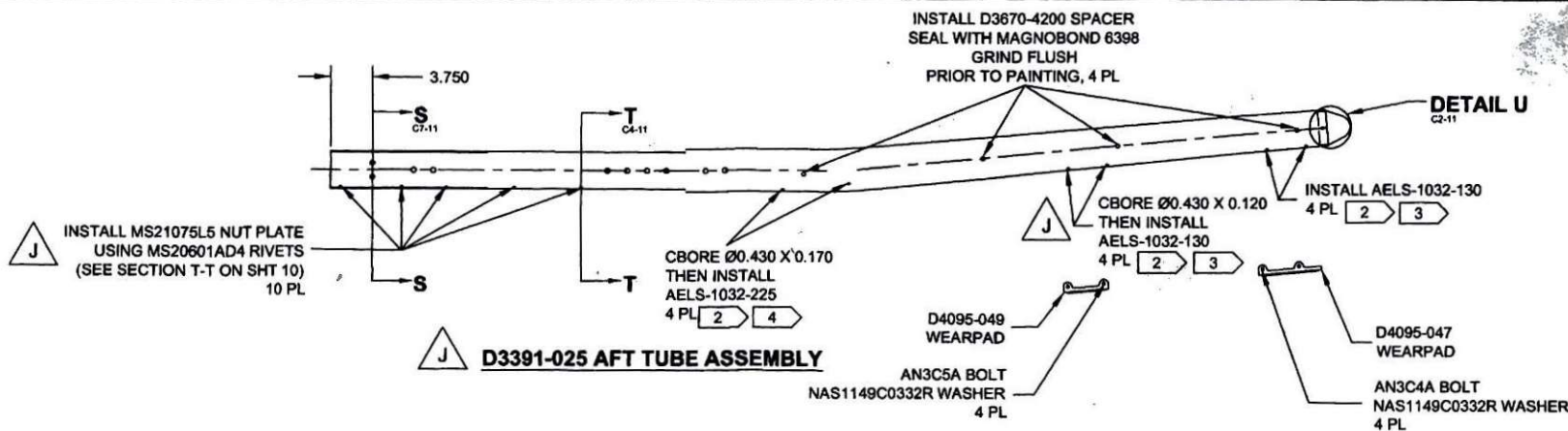
NOTES:

- 1) COAT ALL EXPOSED FASTENERS WITH LPS "LPS PROCYON"
- 2) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 AND Ø0.375 HOLES FOR WEARSHOE INSERTS AND NUTPLATES. CBORE AS NOTED AND INSTALL INSERT/NUTPLATES EXCEPT WHERE INDICATED.
- 3) ENSURE WALL THICKNESS IS BETWEEN 0.070 AND 0.130 BEFORE INSTALLING INSERT
- 4) ENSURE WALL THICKNESS IS BETWEEN 0.130 AND 0.225 BEFORE INSTALLING INSERT

BENDING AND DRILLING DETAIL

RELEASED
2016-04-28

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	<i>SP</i>	D3391	SHEET 8 OF 11
APPROVED	<i>EN</i>	TITLE	SCALE
DE APPR.	<i>#</i>	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			



D3391-025 AFT TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-025	AFT TUBE ASSEMBLY
1	D2846	AFT CAP
1	D3391-3	AFT TUBE
4	D3670-4200	SPACER
2	D3672-1	WASHER
1	D4095-049	WEARPAD
1	D4095-047	WEARPAD
8	AELS-1032-130	INSERT
4	AELS-1032-225	INSERT
4	AN3C4A	BOLT
4	AN3C5A	BOLT
20	MS20601AD4	RIVET, BLIND
10	MS21075L5	NUT PLATE FLOATING
10	NAS1149C0332R	WASHER

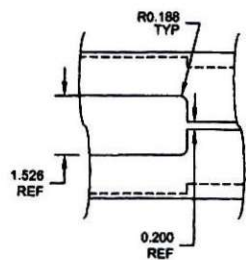
NOTES:

- 1) COAT ALL EXPOSED FASTENERS WITH LPS "LPS PROCYON"
- 2) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 AND Ø0.375 HOLES FOR WEARSHOE INSERTS AND NUTPLATES. CBORE AS NOTED AND INSTALL INSERT/NUTPLATES EXCEPT WHERE INDICATED. USE NUT PLATE DRILL JIG IF REQUIRED.
- 3) ENSURE WALL THICKNESS IS BETWEEN 0.070 AND 0.130 BEFORE INSTALLING INSERT
- 4) ENSURE WALL THICKNESS IS BETWEEN 0.130 AND 0.225 BEFORE INSTALLING INSERT

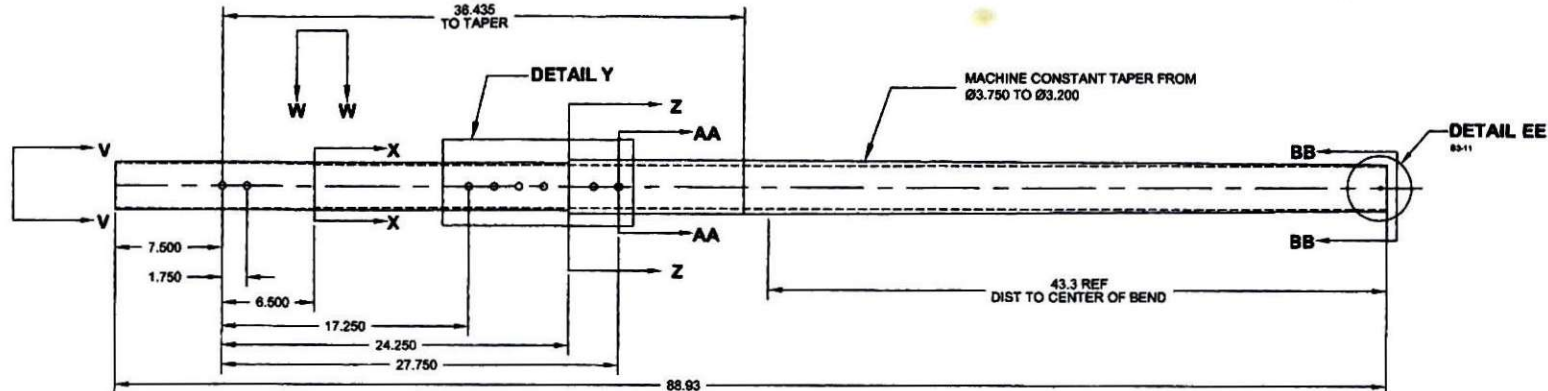
BENDING AND DRILLING DETAIL

RELEASED
2016-04-28

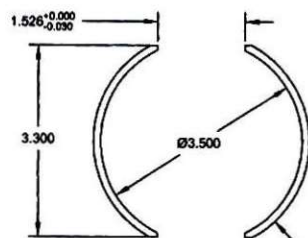
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	<i>SP</i>	D3391	SHEET 9 OF 11
APPROVED	<i>BN</i>	TITLE	SCALE
DE APPR.	<i>BT</i>	AFT TUBE ASSEMBLY	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



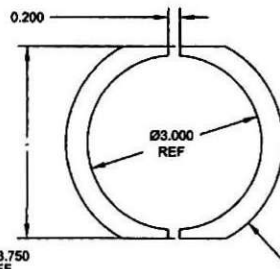
VIEW W-W
SCALE 4X



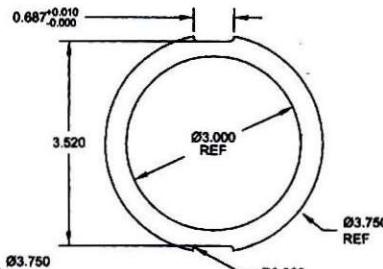
D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090)



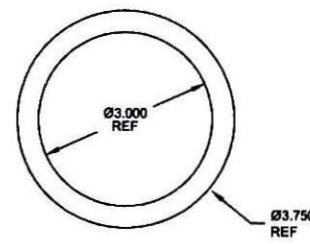
SECTION V-V
SCALE 4X



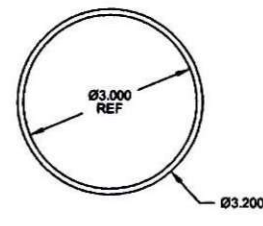
SECTION X-X
SCALE 4X



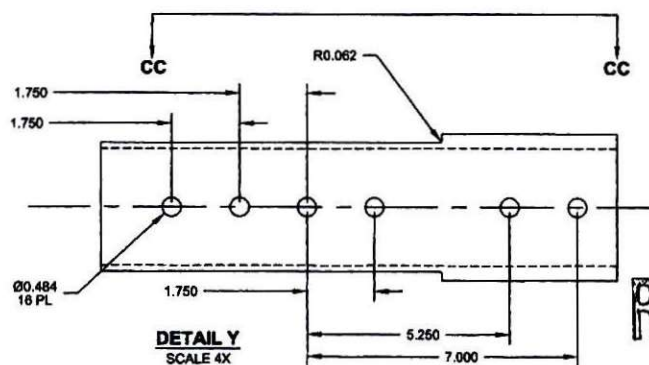
SECTION Z-Z
SCALE 4X



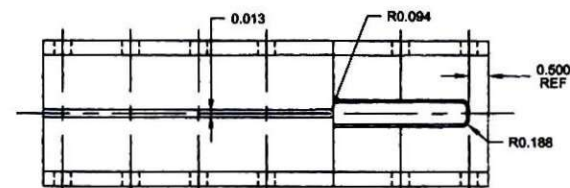
SECTION AA-AA
SCALE 4X



SECTION BB-BB
SCALE 4X



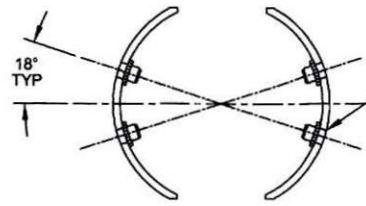
DETAIL Y
SCALE 4X



VIEW CC-CC

RELEASED
2016-04-28

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	<i>DEF</i>	D3391	SHEET 10 OF 11
APPROVED	<i>DEF</i>	TITLE	SCALE
DE APPR.	<i>DEF</i>	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

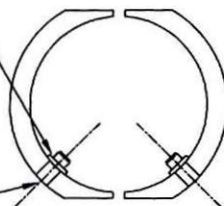


SECTION S-S
SCALE 5X

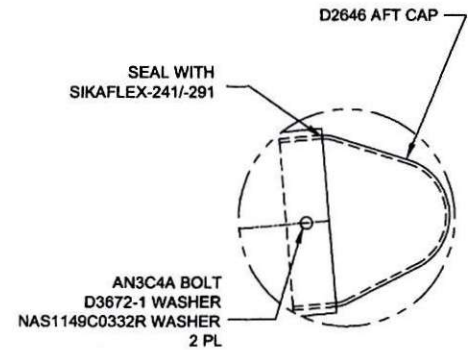
DRILL $\varnothing 0.391$
CBORE $\varnothing 0.516 \times 0.040$ DEEP
INSTALL ALS4-428-165 INSERT
4 PL

USE DT8217 DRILL TEMPLATE
TO LOCATE HOLES AND OPEN
TO $\varnothing 0.375$

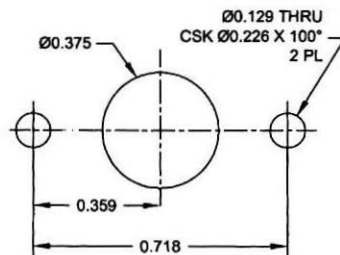
MS21075L5 NUTPLATE
REF



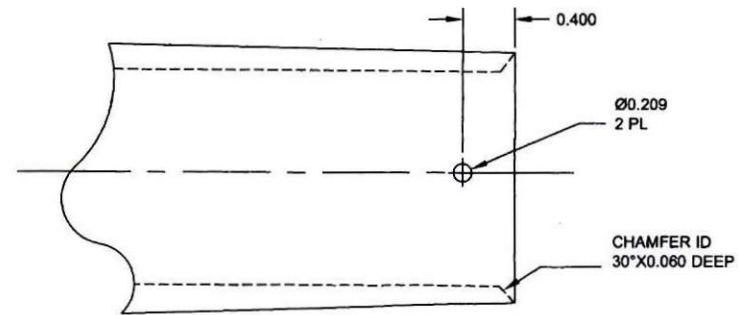
SECTION T-T
SCALE 5X
5 PL



DETAIL U
SCALE 5X



DRILLING DETAIL DD
SCALE 10X



DETAIL EE
SCALE 2X

NOTES:
1) USE INDUSTRY STANDARD NUT PLATE DRILL JIG IF REQUIRED.

RELEASED
2016-04-28

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.		D3391	SHEET 11 OF 11
APPROVED		TITLE	SCALE
DE APPR.		AFT TUBE ASSEMBLY	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRELIMINARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			